

What is claimed is:

1. An image forming process comprising the step of:
producing an electrophotographic print comprising:
 - a black density of 2.0 or more,
 - a black color satisfying the following condition in the CIE 1976 (L*a*b*) color space: $(a^*)^2 + (b^*)^2 \leq 9$, and
 - a 20-degree minimum glossiness of 60 or more.
2. An image forming process according to Claim 1, further comprising:
 - capturing a digital image data and subjecting the digital image data to image processing and image output control to thereby form a digital image;
 - rendering and developing a toner image from the digital image using four or more color toners including at least a yellow (Y) toner, a magenta (M) toner, a cyan (C) toner, and a black (K) toner, each of the toners having a volume-average particle diameter of 7 μm or less and an average of shape factors represented by the following equation of from 1 to 1.5:
$$\text{Shape factor} = (\pi \times L^2) / (4 \times S)$$
wherein L is a maximum length of a toner particle; and S is a projection area of the toner particle;
 - fixing the toner image on an electrophotographic image-receiving sheet to thereby form a toner image,

the electrophotographic image-receiving sheet comprising:
a support, and
a toner-image-receiving layer containing at least a thermoplastic resin and being arranged on the support; and
smoothing and glossing the toner image formed on the electrophotographic image-receiving sheet.

3. An image forming process according to Claim 2, wherein the step of fixing the toner image and the step of smoothing and glossing the toner image comprise a primarily fixing the toner image onto the electrophotographic image-receiving sheet, and further subjecting the toner image on the electrophotographic image-receiving sheet to secondary fixing, smoothing and glossing.

4. An image forming process according to Claim 2, wherein the digital image data is at least one selected from (1) photographed data, (2) data obtained by additionally processing photographed data, (3) data photographed with a digital still camera (DSC), and (4) data captured from a digital video (DV) camera or recorder.

5. An image forming process according to Claim 2, further comprising using, to perform the image processing and output control step, at least one selected from (1) an apparatus capable of capturing any image data from a portable memory on which image

data are recorded, (2) an apparatus capable of accessing a network and capable of capturing accumulated image data from a server connected to the network, (3) an apparatus capable of scanning an analogue image and capturing the image as a digital image, (4) an apparatus capable of connecting to a mobile data terminal and capable of capturing image data in the mobile data terminal, (5) an apparatus capable of selectively performing any additional image processing, (6) an apparatus capable of distinguishing between characters and images and capable of performing a specific image processing, and (7) an apparatus using a three-dimensional look-up table (LUT).

6. An image forming process according to Claim 2, wherein the toners comprise at least a binder resin and a coloring agent, have a volume-average particle diameter distribution coefficient (GSDv) of 1.3 or less, and a ratio (GSDv/GSDn) of the volume-average particle diameter distribution coefficient (GSDv) to a number-average particle diameter distribution coefficient (GSDn) of 0.95 or more.

7. An image forming process according to Claim 2, wherein the toners further contain a releasing agent.

8. An image forming process according to Claim 7, wherein the releasing agent is contained in an amount of 2% by mass to 20%

by mass relative to the binder resin.

9. An image forming process according to Claim 2, wherein the toners are six or more color toners containing at least a yellow (Y) toner, a magenta (M) toner, a cyan (C) toner, a black (K) toner, a light magenta (LM) toner, and a light cyan (LC) toner.

10. An image forming process according to Claim 2, wherein the toners are produced by a process for producing a toner, comprising the steps of:

(i) forming aggregated particles in a dispersion containing dispersed resin particles to thereby prepare an aggregated particle dispersion;

(ii) adding a fine particle dispersion containing dispersed fine particles to the aggregated particle dispersion to apply the fine particles to the aggregated particles to thereby form attached particles; and

(iii) heating the attached particles to fuse and unite the particles to thereby form toner particles.

11. An image forming process according to Claim 2, wherein the image is rendered at a resolution of 1200 dpi or higher.

12. An image forming process according to Claim 2, further comprising using, to perform the step of rendering and developing

an image, one of (1) a multiple tandem development and image transfer device, and (2) an apparatus capable of rendering plural images and capable of automatically cutting a sheet.

13. An image forming process according to Claim 2, further comprising performing oilless image-fixing without the use of a releasing oil as the image-fixing.

14. An image forming process according to Claim 2, using, to perform the smoothing and shining process, a belt processor of cooling and releasing type, the belt processor comprising:

hot-pressing means,
a belt member, and
cooling means.

15. An image forming process according to Claim 14, wherein a heating temperature in the hot-pressing means is from 100°C to 180°C.

16. An image forming process according to Claims 14, wherein a surface of the belt member has one of a layer of fluorocarbon siloxane rubber, and a layer of silicone rubber and fluorocarbon siloxane rubber in which the silicone rubber and the fluorocarbon siloxane rubber are disposed in this order.

17. An image forming process according to Claims 16 , wherein the fluorocarbon siloxane rubber has at least one of a perfluoroalkylether group and a perfluoroalkyl group in a main chain thereof.

18. An image forming process according to Claim 2, further comprising using, as the electrophotographic image-receiving sheet, an electrophotographic image-receiving sheet having an indicator on its back side.

19. An image forming process according to Claim 18, wherein the indicator indicates at least one selected from a logo, a price, performance, a catch phrase, a company name, a trade name, a trade mark, a diagram, a picture, a pattern, information (exchangeable image file format information; EXIF information) on the image, information on the copyright of the image, names of a photographic machine used and a photographer, and information on image processing.

20. An image forming process according to Claim 2, further comprising using an electrophotographic image-receiving sheet having a weight of 100 g/m² or more and a thickness of 100 μm or more .

21. An image forming process according to Claim 2, further

comprising using an electrophotographic image-receiving sheet having a rate of hygroscopic swelling of 1% or less.

22. An image forming process according to Claim 2, wherein the support in the electrophotographic image-receiving sheet is one selected from raw paper, synthetic paper, a synthetic resin sheet, coated paper, and laminated paper.

23. An electrophotographic image-receiving sheet comprising:

a support; and

a toner-image-receiving layer containing at least a thermoplastic resin and being arranged at least on one side of the support, and

having an indicator on its back side.

24. An electrophotographic image-receiving sheet according to Claim 23, wherein the indicator has been formed by printing in a production process of the electrophotographic image-receiving sheet.

25. An electrophotographic image-receiving sheet according to Claim 23, wherein the indicator is formed by printing in an image forming process.

26. An electrophotographic image-receiving sheet according to Claim 23, wherein the indicator indicates at least one selected from a logo, a price, performance, a catch phrase, a company name, a trade name, a trade mark, a diagram, a picture, a pattern, information (exchangeable image file format information; EXIF information) on the image, information on the copyright of the image, names of a photographic machine used and a photographer, and information on image processing.

27. An electrophotographic image-receiving sheet according to Claim 23, wherein the indicator is arranged on the entire back side of the electrophotographic image-receiving sheet.

28. An image forming apparatus for use in a process for forming an image by producing an electrophotographic print, the electrophotographic print comprising :

- a black density of 2.0 or more,
- a black color in the CIE 1976 ($L^*a^*b^*$) color space satisfying the following condition: $(a^*)^2 + (b^*)^2 \leq 9$, and
- a 20-degree minimum glossiness of 60 or more,

the image forming apparatus comprising a charging device for billing users by the usage.

29. An image forming apparatus according to Claim 28, comprising:

digital image processing and output control means for capturing a digital image data and subjecting the digital image data to image processing and image output control to thereby form the digital image;

rendering and developing means for rendering and developing a toner image from the digital image using four or more color toners including at least a yellow (Y) toner, a magenta (M) toner, a cyan (C) toner, and a black (K) toner, each of the toners having a volume-average particle diameter of 7 μm or less and an average of shape factors represented by the following equation of from 1 to 1.5:

$$\text{Shape factor} = (\pi \times L^2) / (4 \times S)$$

wherein L is a maximum length of a toner particle; and S is a projection area of the toner particles;

toner image-fixing means for fixing the toner image on an electrophotographic image-receiving sheet to thereby form the toner image,

the electrophotographic image-receiving sheet comprising:

a support, and

a toner-image-receiving layer containing at least a thermoplastic resin and being arranged on the support; and

postprocessing means for smoothing and glossing the toner image formed on the electrophotographic image-receiving sheet.

30. An image forming apparatus according to Claim 28, which is configured so as to be capable of connecting to a mobile data terminal and communicating with the mobile data terminal.

31. An electrophotographic print comprising :
a black density of 2.0 or more;
a black color satisfying the following condition in the CIE 1976 (L*a*b*) color space: $(a^*)^2 + (b^*)^2 \leq 9$; and
a 20-degree minimum glossiness of 60 or more.

32. An electrophotographic print according to Claim 31, which is produced by an image forming process comprising the step of:

capturing a digital image data and subjecting the digital image data to image processing and image output control to thereby form the digital image;

rendering and developing a toner image from the digital image using four or more color toners including at least a yellow (Y) toner, a magenta (M) toner, a cyan (C) toner, and a black (K) toner, each of the toners having an average particle diameter of 7 μm or less and an average of shape factors represented by the following equation of from 1 to 1.5:

$$\text{Shape factor} = (\pi \times L^2) / (4 \times S)$$

wherein L is a maximum length of a toner particle; and S is a projection area of the toner particles;

fixing the toner image on an electrophotographic image-receiving sheet to thereby form the toner image,
the electrophotographic image-receiving sheet comprising:

a substrate, and
a toner-image-receiving layer containing at least a thermoplastic resin and being arranged on the substrate; and
smoothing and glossing the toner image formed on the electrophotographic image-receiving sheet.

33. An electrophotographic print according to Claim 31, comprising a white color satisfying the following conditions in the CIE 1976 ($L^*a^*b^*$) color space: $-2 < a^* < 2$, and $-5 < b^* < 1$.

34. An electrophotographic print according to Claim 31, which is a borderless print wherein an image is printed over the entire surface of the print.